AMENDMENTS TO THE SPECIFICATION:

Please amend the paragraph beginning at page 1, line 9, as follows:

BACKGROUND ~~OF THE INVENTION~~.

Please amend the paragraph beginning at page 1, line 10, as follows:

~~The~~ Exemplary embodiments of the present invention relates to a misfire detector

for detecting a misfire in an internal combustion engine. Using engine speed fluctuation

is one such way to determine misfire.

Please amend the paragraph beginning at page 6, line 4, as follows:

SUMMARY ~~OF THE INVENTION~~.

Please amend the paragraph beginning at page 6, line 6, as follows:

In view of the foregoing problems, ~~it is the object of~~ one aspect of exemplary

embodiments of the present invention to provide a misfire detector for an internal

combustion engine that makes it possible to reduce the matching hour and improve the

interpolation accuracy by making it possible to obtain, by means of simple matching, a

map according to which misfire determination values can be calculated.

Please amend the paragraph beginning at page 6, line 13, as follows:

According to a first aspect of the invention, the misfire detector for an internal

combustion engine has a map, an engine speed fluctuation computing means and a

misfire detecting means. The map stores various misfire determination values for

different engine rotation periods. On the basis of the engine speed, the engine speed

fluctuation computing means calculates the engine speed fluctuation quantity for a

predetermined period of time. The misfire detecting means compares the calculated

engine speed fluctuation quantity with one of the stored misfire determination values to

determine whether the engine is misfiring. The misfire determination values are roughly

proportional to the engine rotation periods, and the relationship between the values and

the periods is linear. Consequently, a map for the calculation of misfire determination

values can be obtained by means of simple matching. This makes it possible to reduce the

matching ~~hour~~ time for making the map and improve the interpolation accuracy in

calculating the misfire determination values on the basis of the map.

Please amend the paragraph beginning at page 8, line 9, as follows:

In further consideration, another ~~object~~ aspect of the present invention is to

provide a misfire detector for the internal combustion engine of a vehicle that can hold

storage of learned values for misfire determination even when the battery mounted in the

vehicle is removed, so that a misfire can be detected with practical accuracy after a point

when the engine has just started after the battery is replaced. Another ~~object~~ aspect of the

invention is to provide a misfire detector that can be used for a long time, such as the life

of the engine.

Please amend the paragraph beginning at page 11, line 17, as follows:

FIG. 4 is a graph of the relationship between the crankshaft rotation periods and misfire determination values used in the first embodiment of the misfire detector according to <u>exemplary embodiments of</u> the present invention;

Please amend the paragraph beginning at page 21, line 1, as follows:

In other words, misfire determination values REF are mapped in advance with crankshaft rotation periods T as a parameter (FIG. 3), and are stored in the ROM 32. By comparing the engine speed fluctuation quantity $\Delta\omega$n for the predetermined period of time with a misfire determination value REF, it is possible to determine whether the engine 10 is misfiring. Misfire determination values REF are roughly proportional to crankshaft rotation periods T, and the relationship between the values REF and the periods T is linear. Consequently, the map for the calculation of misfire determination values REF can be obtained by means of simple matching. This makes it possible to reduce the matching ~~hour~~ <u>time</u> for making the map and improve the interpolation accuracy in calculating misfire determination values REF on the basis of the map.

Please amend the paragraph beginning at page 22, line 19, as follows:

Hereinbefore, the engine 10 has been described as a four-cycle engine having six cylinders, #1-#6. However, an internal combustion engine to which a misfire detector according to <u>exemplary embodiments of</u> the present invention can be applied is not limited to a four-cycle engine having six cylinders. In brief, the engine speed fluctuation quantity may be calculated from the engine speeds in the same phase in consecutive combustion strokes of the engine.